

Appl. No. 09/944,511
Reply to Office action of 08/29/2003

Page 2

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (currently amended): A process for converting a hydrocarbon feed stream comprising:

passing a reformulation feed stream including saturated and olefinic hydrocarbons with carbon numbers of 5-8 to a reformulating reactor containing catalyst particles having a composition including crystalline alumina silicate or zeolite;

reformulating said reformulation feed stream in said reformulating reactor to produce a reformulated product stream, said reformulating proceeding at conditions that promote at least a 5% net yield increase in aromatics on a fresh reformulation feed basis indicating the occurrence of hydrogen transfer reactions; and

recovering said reformulated product stream;

wherein said reformulation feed stream is prepared by:

cracking a preliminary cracking feed stream with catalyst particles in a cracking reactor to produce a cracked product, said catalyst particles in said cracking reactor having a same composition as the catalyst particles in said reformulating reactor;

separating said cracked product from said catalyst particles in a separator vessel to obtain a cracked product stream; and

recovering at least a portion of said cracked product stream to be said reformulation feed stream.

Claim 2 (canceled)

Claim 3 (currently amended): The process of claim [[2]] 1 further including isolating said reformulated product stream from said cracked product stream.

Claim 4 (currently amended): The process of claim [[2]] 1 further comprising the step of cycling catalyst particles that had previously resided in said cracking reactor to said reformulating reactor.

Claim 5 (original): The process of claim 1 wherein a greater proportion of hydrocarbons with carbon numbers of 5-8 undergo hydrogen transfer reaction than

cracking reaction. ✓

Appl. No. 09/944,511
Reply to Office action of 08/29/2003

Page 3

Claim 6 (original): The process of claim 1 wherein olefins in said reformulation feed stream convert to isoparaffins in the reformulating reactor.

Claim 7 (original): The process of claim 1 wherein the concentration of sulfur compounds in the reformulated product stream is less than its concentration in the reformulation feed stream.

Claim 8 (original): The process of claim 1 wherein the concentration of nitrogen compounds in the reformulated product stream is less than its concentration in the reformulation feed stream.

Claim 9 (original): The process of claim 1 wherein the reformulation feed stream has an initial boiling point below about 200°C (392°F).

Claim 10 (original): A process for converting a hydrocarbon feed stream comprising:

- contacting said hydrocarbon feed stream with catalyst particles having a composition in a first reactor to produce a cracked product;
- separating said cracked product from said catalyst particles in a vessel to obtain a cracked product stream;
- recovering a naphtha stream from said cracked product stream, said naphtha stream having an initial boiling point below 127°C (260°F);
- contacting said naphtha stream with catalyst particles having said composition in a second reactor to produce an upgraded product stream; and
- recovering said upgraded product stream and isolating said upgraded product stream from said cracked product stream.

Claim 11 (original): The process of claim 10 wherein hydrogen transfer reactions predominate over cracking reactions in the second reactor.

Claim 12 (original): The process of claim 10 wherein olefins convert to aromatics in the second reactor.

Claim 13 (original): The process of claim 10 wherein olefins convert to isoparaffins in the secondary reactor.

Claim 14 (original): The process of claim 10 wherein the concentration of sulfur compounds in the upgraded product stream is 50% less than its concentration in the naphtha stream.

Claim 15 (original): The process of claim 10 wherein said naphtha stream has an end point below 230°C (446°F).